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ABSTRACT

People learn a set of private rules or beliefs, which they use to make career decisions. The use of unfounded beliefs or inappropriate rules causes people to fail to recognize that a remediable problem exists, to fail to exert needed effort, to fail to generate potentially satisfying alternatives, to choose poor alternatives, and to suffer anxiety over the inability to achieve goals. Troublesome career development beliefs are based on faulty generalizations, self-comparison with a single standard, exaggerated estimates of the emotional impact of an outcome, false causal relationships, ignorance of relevant facts, undue weight given to low probability events, and self-deception. Five major ways in which evidence about beliefs, thoughts, and thinking processes can be collected are interviews, reconstruction of prior events, records of thought samples, inferences from behavior, and psychometric instruments. Evidence obtained from these samples of thinking may be used to identify thoughts at the root of problem behavior by examining assumptions and presuppositions of the expressed belief, looking for inconsistencies between words and behavior, testing simplistic answers for inadequacies, confronting barriers to stated goals, challenging the validity of key beliefs, and building a feeling of trust and cooperation. (YLB)

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PRIVATE RULES IN CAREER DECISION MAKING

John D. Krumboltz

Fellow, Advanced Study Center

The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

1983

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For further information contact:

Program Information Office
National Center for Research
in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

Telephone: (614) 486-3655 or (800) 848-4815
Cable: CTVOCEDOSU/Columbus, Ohio
Telex: 8104821894

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FOREWORD

The career guidance counselor of today must assist individuals in making career decisions in a complex environment. Some people encounter a specific difficulty, however, that makes this process more complex than it might otherwise be. This difficulty involves an individual's holding private career development beliefs that are either mistaken or simply unrecognized by the individual. Such beliefs can impede logical decision making by the individual or can interfere in a guidance counselor's efforts to provide decision-making assistance.

John Krumboltz, Professor of Education and Psychology at Stanford University, spent nine months as an Advanced Study Center Fellow at the National Center for Research in Vocational Education. The focus of his work was the concept of private career development beliefs, what they are, how they affect the individual holding them, and how identifying them can assist in the career guidance process. His work is an unusual one in that it addresses an area not previously identified in the field of vocational guidance as contributing to career decision making. This monograph is part of a larger study and will eventually be published as part of a book on the relation of cognitive science and vocational psychology.

The present monograph is intended for counselors, psychologists, vocational educators, and others interested in helping people make career choices based on a more complete examination of their presuppositions.

In preparing this work, thanks are extended to Arthur M. Kroll of the Educational Testing Science, and James P. Long and Judith Samuelson of the National Center for Research in Vocational Education who reacted to an initial draft of this manuscript. Thanks are also due to Kathy Friend, who prepared the typewritten drafts of the manuscript, and to Catherine A. King-Fitch who provided the final editorial review of the publications.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

PREFACE

Career decision-making ability, like most other skills, is developed as a result of a long series of learning experiences. These learning experiences teach people a set of self-observation generalizations and task approach skills, which they use in making judgments about possible career options (Krumboltz 1979).

Since everyone has a somewhat different set of learning experiences, the "rules" (generalizations, thoughts, cognitions, beliefs, skills) developed from these experiences are different for each of us. The rules that we have learned guide us as we make decisions about the future. Unlike public rules, which are common to all, these "private rules" are idiosyncratic. Private rules influence our emotions and our behavior. Because we always follow our own private rules, our behavior always makes sense to us but may often seem inexplicable to others. Private rules affect the way we make thousands of career decisions: electing educational courses, choosing hours to study, selecting a college major, applying for jobs, asking for a raise, picking a wardrobe for the job. Some of these decisions are more important than others because they have longer term consequences.

This document is one product of a fellowship project at the Advanced Study Center, National Center for Research in Vocational Education, entitled "Irrational Components of Career Decision Making." However, one outcome of my study was the decision that it is irrational to distinguish between rational and irrational decisions. Every decision is irrational in that it involves some kind of implicit or explicit prediction about the future. The future is always unknown, so every decision must be based on less than perfect information and to that extent is irrational. On the other hand, every decision is perfectly rational to the person who makes it at the instant the decision is made. Each decision maker thinks that the decision made is the best possible decision given the circumstances at that moment. If it were not, some other decision would have been made instead. The extent to which a given choice is rational or irrational depends upon the point of view of the person judging it and the amount of hindsight available. Rather than quibble about the rationality or irrationality of decisions, I have attempted to examine the kinds of private rules that people learn and how they influence the career decision-making process.

This document is devoted to an exploration of how to help people identify the private rules they hold. A number of other related problems also deserve attention, but work on them is reserved for later. Some of these other problems include the following: (1) the processes by which people develop particular private rules from particular types of learning experiences, (2) the extent to which unarticulated beliefs may affect the process and content of decisions, (3) intervention methods for helping people examine and change their private rules, and (4) needed research studies to clarify the process of rule development and the effects of possible interventions.

My thesis here is that private rules and beliefs have a tremendous impact on career decision making. Consequently, counselors and teachers need to be sensitive to the types of learning experiences that create these beliefs and need to have ways of identifying the beliefs and private rules each person is learning. Vocational counselors will have to be concerned not just with

stated decisions but with the thinking processes that underlie them. To do a good job in the future, counselors will have to develop skills in identifying the private rules that guide career decision making.

John D. Krumboltz
May 1983

EXECUTIVE SUMMARY

People learn a set of private rules or beliefs, which they use to make major and minor career decisions. These rules can be classified in many possible ways. The particular rules that are learned have important consequences for the outcomes of career decisions. The use of unfounded beliefs or inappropriate rules causes people to fail to recognize that a remediable problem exists, to fail to exert needed effort, to fail to generate potentially satisfying alternatives, to choose poor alternatives, and to suffer anxiety over the inability to achieve goals.

Beliefs that can potentially cause distress in career decision making are based on faulty generalizations, self-comparison with a single standard, exaggerated estimates of the emotional impact of an outcome, false causal relationships, ignorance of relevant facts, undue weight given to low probability events, and self-deception. Self-deception occurs because society differentially reinforces socially acceptable rationales and because most people carry with them conflicting sets of values and goals.

Decision making is a painful process, and the pain and stress reduce the decision maker's ability to respond rationally and intelligently. Those who suffer the most use the least adequate decision processes. If private rules and beliefs are at the root of personal decisions, then it would be important for counselors to help people identify their private rules.

Although beliefs, thoughts, and thinking processes are almost by definition unobservable, there are five major ways in which evidence about them can be collected: (1) interviews conducted by skilled counselors, (2) memory recall stimulated by reproducing past events, (3) records of thought samples produced during certain activities, (4) inferences from private speech or other behavior, and (5) psychometric instruments.

Evidence obtained from these samples of behavior may be used to identify thoughts at the root of problem behavior by (1) examining assumptions and presuppositions that underlie the expressed beliefs, (2) looking for inconsistencies between worlds and behavior, (3) testing simplistic answers for inadequacies, (4) confronting attempts to maintain an illogical consistency, (5) identifying barriers to stated goals, (6) challenging the validity of key beliefs, and (7) building a feeling of trust and cooperation.

PRIVATE RULES IN CAREER DECISION MAKING

A number of attempts have been made to categorize cognitions that lead to psychological distress. Ellis (1962) has produced probably the most often cited list of irrational beliefs, which he holds to be at the root of psychological problems. The following examples were included in his list of eleven:

- "It is a dire necessity to be loved or approved of by almost everyone for virtually everything one does."
- "One should be thoroughly competent, adequate, and achieving in all possible respects."
- "It is terrible, horrible, and catastrophic when things are not the way one would like them."
- "If something is or may be fearsome or dangerous one should be terribly occupied and upset about it."
- "Human happiness can be achieved by inertia and inaction or by passively and uncommittedly enjoying oneself."
- "It is easier to avoid facing many life difficulties and responsibilities than to face and undertake them." (Ellis 1970)

Beck (1976), rather than classifying the beliefs themselves, has categorized the thought processes that underlie the beliefs—for example, distortions of reality, illogical thinking, use of inaccurate premises, dichotomous reasoning, magnification, and arbitrary inference. Meichenbaum (1977) has developed a generalized set of self-instructions for dealing with different kinds of problems based on a cognitive approach. Instead of categorizing specific beliefs, however, Meichenbaum has developed a skills-oriented therapy in which clients are instructed in how to talk to themselves in—

- preparing for a stressor;
- confronting and handling a stressor;
- coping with the feeling of being overwhelmed; and
- reinforcing progress by use of self-statements.

Ellis, Beck, and Meichenbaum are only three of many writers over the years who have emphasized the close interrelationships of thinking, feeling, and behaving. The cognitive approach has taken on a new impetus in recent years as a possible way of intervening in psychological problems. It represents an expansion of the behavioral approach, which

emphasized behavioral interventions that were believed to generalize to emotions and cognitions. Interventions in the thinking process itself are now seen to be an additional useful approach.

In the area of career decision making, Krumboltz and Mitchell (1980) developed a category system for generalizations that inhibit constructive career activities. They categorized beliefs under four major headings:

- Self-observation generalizations (e.g., "I'm not a motivated person.")
- World view generalizations (e.g., "All business school majors are self-confident and assertive.")
- Generalizations about ways to reach a decision (e.g., "Other people will know about me and make better decisions for me than I could make for myself.")
- Generalizations about conditions necessary for career satisfaction (e.g., "I must go into a profession in which I know I will be extremely successful.")

In the treatment phase of her study, Mitchell (1980) categorized the problem beliefs in career decision making under five headings: (1) overgeneralization, (2) inference made without checking source, (3) inability to see the possibility for changing learned behavior, (4) catastrophizing, and (5) illogical inference.

Another attempt to categorize career development beliefs was contributed by Lewis and Gilhousen (1981). They identified seven myths that cause trouble in career decision making:

- "I must be absolutely certain before I can act."
- "Career development involves only one decision."
- "If I change I have failed."
- "If I can just do *this*, then I will be happy."
- "My work should satisfy all my needs."
- "I can do anything as long as I'm willing to work hard enough."
- "My worth as a person is integrally related to my occupation."

Consequences of Unfounded Beliefs

Why is it that certain cognitions cause trouble in career decision making? What consequences do these beliefs have on people, that make them worthy of our attention? There seem to be five major consequences (or associated outcomes if one is troubled by the causal implication) of holding faulty beliefs or engaging in faulty reasoning in career decision making.

Failing to Recognize That a Remediable Problem Exists

Some people seem to assume that their problems and sufferings are a normal and natural part of life rather than a set of circumstances that might be altered. Beliefs that lead to such a consequence include the following:

- "Of course we must learn to accept things the way they are."
- "I am doing the only thing there is to do."
- "Bosses always act that way."
- "We are put in this world to endure suffering."

Presuppositions such as these inhibit people from defining their circumstances as a problem that could be improved. It is assumed that whatever exists continues to exist and there is nothing that anyone can or should do about it. The consequence is that much needless suffering occurs. (Of course, if one takes the point of view that needless suffering is a good thing, then such thinking cannot be classified as an unfortunate consequence.)

Failing to Exert Effort Needed to Make a Decision or Solve a Problem

Some people, even if they do recognize that a problem exists, hold a set of beliefs that prevent them from taking any action to resolve that problem. Such beliefs are illustrated by the following examples:

- "I've always idolized my father and have done whatever he thought was best."
- "I do whatever is familiar and easily available."
- "It is easier to avoid than to face decisions."
- "I'll just know when I've found the right job for me."
- "I don't know any other way to make decisions except to do what feels good."

Beliefs such as these inhibit constructive action, discouraging people from exploring alternatives and actively seeking information, opinions, or advice that might lead them to consider new directions. The unfortunate consequence occurs when people find themselves stuck in a rut not of their own making and regret the events or resent the people associated with it.

Eliminating a Potentially Satisfying Alternative for Inappropriate Reasons

Sometimes people make assumptions or generalizations, based on limited evidence, that lead them to eliminate a whole class of alternatives from further consideration. Examples of beliefs that may have this effect include the following:

- "Living on the East Coast is bad; life is more casual and less judgmental in the West."

- "I couldn't accept any job that had set hours of work because I couldn't think creatively then."
- "I don't know how to give speeches, so I'd better not go into law."
- "I don't like Latin, so I can't be a pharmacist."
- "I hate the sight of blood, so I would be no good as a doctor."
- "I wanted to be a teacher, but everyone at my college made fun of people who majored in education."
- "I had hoped to become a dentist but was frightened out of taking organic chemistry."
- "They offered me a two-year contract, but I was not sure I could last that long and I didn't want to be a quitter, so I said 'No'."

Beliefs such as these, based on misinformation, overgeneralizations, or false assumptions, are harmful in that they prevent people from enjoying some potentially worthwhile alternatives. Decision making does require some alternatives to be eliminated, but not for invalid reasons.

Choosing a Poor Alternative for Inappropriate Reasons

The most evident cause of dissatisfaction in career decision making is the choosing of an inappropriate alternative. One cannot really complain about an overlooked alternative, since one can never be sure that the "unchosen path" would have been more satisfactory. However, choices that turn out badly can be seen and felt. The following examples illustrate beliefs that might lead people to choose poor alternatives:

- "Becoming a minister will give me the desirable qualities that religious people have."
- "I became a boilermaker because my guidance counselor told me that was the only occupation I was suited for according to my test scores."
- "If I can't have what I want here, I'll take the first thing available somewhere else."
- "I'd rather succeed in a low-level job than risk failure in a more responsible position.

Beliefs such as these can cause a person to foreclose desirable alternatives. The consequences of poor choices can be experienced for years. Such suffering can be interrupted, of course, by defining the current suffering as a new problem to be remedied, at which time the decision-making process can be reinaugurated.

Suffering Anguish or Anxiety over a Perceived Inability to Achieve Goals

The problems here can arise from four sources:

1. **The goals may be unrealistic.** People sometimes set very high standards for themselves or they allow other people to set unrealistically high goals for them. Beliefs illustrating this problem would include the following:

- "My father will be very disappointed in me if I take a job in which I cannot use my degree."
- "I should not take a job that would displease my husband."
- "If I can't have the best, I don't want anything at all."

Anxiety is produced when no practical method is available to achieve these high goals and the goals themselves are not seen as modifiable.

2. **Some goals may be in conflict with other goals.** It then becomes impossible to satisfy all desires. The conflict over choices produces severe stress, as illustrated by the following beliefs:
   - "I want to work in the same town where most of my friends live, but the openings that are available in my field are all out of town."
   - "I don't want any job where I am supervised, but I don't have the courage to set up a business of my own."
   - "I would like a job where every day was different, but I know that's impossible."
3. **The lack of ability may be perceived or real.** It may be hard to tell the difference because we usually don't know whether we have the ability to perform in a particular job until we have tried. The following example illustrates a belief of this kind that interferes with attempts to try the unknown: "Since I have never done that kind of work before, I don't know how to do it and therefore should not attempt to obtain that kind of job." Such thinking would discourage anyone from ever trying something new. Here is a contrary point of view expressed by one person: "On-the-job training is a way of life. If I waited until I was prepared, I'd never accomplish anything." Beliefs influence people's willingness to accept positions for which they have had limited preparation, to take risks, and to learn on the job.
4. **The perceived inability may be linked to feelings of personal worth.** The inability to achieve a goal would not assume such monumental proportions if it were not associated with one's feelings of personal value. The following beliefs illustrate that kind of linkage:
   - "If I choose the wrong job here, it will be awful and I will have ruined my life."
   - "If I don't find a job I like, I'll be both bitter and angry."
   - "If I don't make more money than my father, I'll consider myself a failure in life."

   Failure does not need to be linked to personal worth. The failure experience can be conceived of as a necessary trial that had unexpected outcomes, as an interesting adventure, or as a valuable learning experience. People who link their feelings of personal worth to specific experiences in life create potential misery for themselves. Such misery would be unnecessary if they were to examine alternative interpretations of the same events.

Characteristics of a Troublesome Belief

What defines a troublesome career development belief? It would be an oversimplification to assert that false beliefs are necessarily troublesome. We could probably even point to instances in which certain false beliefs were constructive, for example, in encouraging people to achieve apparently impossible outcomes. While there is no acid test for a troublesome belief, a hint of future trouble is indicated if the belief is based on any one of the following factors.

Faulty Generalizations

Wyer and Carlston (1979) have identified three types of generalization similar to those suggested by Kelley (1967): *consistency* (Would Joe treat Mary the same way in other situations?), *distinctiveness* (Would Joe treat other people the same way under comparable conditions?), and *consensus* (Would people other than Joe treat Mary the same under comparable conditions?).

The same types of faulty generalization exist in thinking about career problems; for example—

- "I am afraid of giving a speech in class, so I would panic in a courtroom if I were a lawyer" (consistency);
- "I'm afraid to speak on a familiar topic, so I would flop completely if I spoke on any other subject" (distinctiveness); and
- "I am the only person in the world who is so afraid of public speaking" (consensus).

These examples illustrate three major ways in which inappropriate generalizations may occur. A single experience or observation may lead to generalizations about a whole class of people or events, such as—

- "Movie stars all lead glamorous lives."
- "Army doctors are all practical jokesters."
- "Bank presidents are rich and officious."

Most people tend to recall their generalizations but forget the specific events or observations on which they are based (Nisbett and Wilson 1977). The observation may have been accurate, but the overgeneralization can become the basis for a poor decision.

Self-Comparison with a Single Standard

Why would a tennis player, for example, stand out in the hot sun hour after hour hitting a fuzzy ball across a net? What is she trying to prove? That she is the best in the world? Nation? State? County? Block? That she is better than her father? Mother? Sister? Teacher? Or better than she used to be? That she is good enough to deserve the affection of her mother? Her boyfriend? Herself? That she displays, even if not winning, the quality of persistence? Consistency? Stamina? Good sportsmanship? Occasional brilliance?

A number of possible reference points are available in judging one's own performance. Comparisons can be made with any subset of people located in any geographical area to impress anyone, including oneself, for whatever qualities one wishes to display. And one can almost always find someone who performs better and someone else who performs worse on any dimension. Problems arise when only a single reference group or a single quality is chosen for comparison; for example, "I'm not as self-assured as Dr. Brown, so I could never be a doctor." Such a belief involves assumptions that Dr. Brown really is as self-assured as it seems, that self-assurance is the only quality necessary for success in medicine, that Dr. Brown is the sole standard against which one should be compared, and that Dr. Brown's current self-assurance was equally evident when the doctor was fifteen years younger. Examining assumptions such as these would be helpful to a young person in whom this belief produces feelings of negative self-worth.

The problem of a single standard is also illustrated in the case of persons admitted to selective colleges and universities who find themselves "below average" in their new environment even though they were "above average" academically in high school. It is difficult for them to appreciate that their current, most salient comparison group should give them no reason to doubt their worth.

A single comparison can sometimes be motivating, however. One graduate student reported that she began her Ph.D. program after observing the mediocre performance of someone else in the program. Her belief was that, "If that ding-a-ling can do it, so can I."

Exaggerated Estimate of the Emotional Impact of an Outcome

Ellis (1962) has emphasized the powerful impact of negative thinking on the emotions. He maintains that it is not an event itself that causes emotional upset, but the thinking about that event. Some people will say that they just "can't stand" the possibility of failure. Usually this is because they have had such limited experience with failure that they have not had an opportunity to learn that they could indeed tolerate failure, though of course they might not enjoy it.

Consider the following belief: "I decided to major in chemistry and now I am dissatisfied with my decision. I want to change, but there must be something wrong with me if I can't stick with what I originally decided." The difficulty here is in the inference that "there must be something wrong with me." Simply changing majors is not hard to accomplish. Believing that one should stick to a decision even if it is proving unsatisfactory may or may not be a wise policy depending on the circumstances. However, interpreting a possible need to change as indicating "something is wrong with me" signifies that the proposed change of major is not a simple matter.

The exaggerated emotional impact may be positive as well as negative. The belief cited by Lewis and Gilhousen (1981), "If I can just do *this*, then I will be happy," is cited as an irrational idea because future events will show that no one event makes people happy indefinitely. Possessing the notion that any single event will produce either ecstasy or disaster is a sign of a potentially troubled belief.

False Causal Relationships

Scott Conrad, editor of the film *Rocky*, for which he won an Academy Award, spoke before a filmmaking class at The Ohio State University and was asked how he had obtained the film-

editing job. He replied, "I just happened to be in the right place at the right time." The belief that one obtains positions of high responsibility by "just happening to be at the right place at the right time" is a belief that would lead its holders to trust fate and take no action to achieve their goals. Someone in the audience asked a follow-up question, "Mr. Conrad, what did you do to get into the right place at the right time?" Conrad then described his mail clerk beginnings in the film industry, his aspirations and strivings to break into the creative end of the business, the courses in filmmaking that he took at the University of Southern California, and the fact that every week for three years he made contact with people in the editing department asking to be put on the payroll as an apprentice. The motivation, drive, training, and experience he demonstrated in all of these activities enabled him to be in the right place with the right qualifications at the time the opening occurred and to be identified as a person capable of handling the assignment.

There is a marked difference in the cause-and-effect relationships between the two answers Mr. Conrad gave. His first answer implies that fate and luck determine advancement; his second answer implies that drive, ambition, training, experience, and good performance are recognized. Which causes people to be chosen for positions of high responsibility? Perhaps both skill and fate have some influence, but for a young person aspiring to enter the film industry, the difference between these beliefs is considerable. Beliefs that posit false causal relationships may lead people to take actions that will not have the consequences they desire.

Ignorance of Relevant Facts

"I became an English teacher because I thought I would be helping eager students learn to appreciate the finer points of literature. Little did I know that I would become a disciplinarian, a police officer, a bookkeeper, and a translator of barely legible handwriting. I quit teaching in disgust." This person had no knowledge of the realities of teaching high school English in a large city. The idealistic image on which this decision was based soon proved a myth. Becoming acquainted with the relevant facts prior to making a major decision would have prevented a great deal of unhappiness for this individual.

The problem of ignorance is compounded because recruiters for various occupations and professions seldom emphasize the negative aspects. They want to attract a large number of highly talented people to apply, and so glowing pictures are painted about the advantages and perquisites of the field. The darker facts are obscured. A highly idealized belief that includes only one side of the picture and ignores relevant facts is likely to signify trouble ahead.

Undue Weight Given to Low Probability Events

"I won't accept a job in the Midwest because there are too many tornadoes there." Of course, tornadoes are fearsome, but so are hurricanes on the East Coast and earthquakes on the West Coast. A relevant question concerns the number of people actually killed each year through each type of disaster. The number is relatively small compared to the number killed in automobile accidents. Making a major career decision on the basis of a very low probability event is apt to make satisfaction with the outcome dependent on unanticipated factors.

Self-Deception

"When no reason is needed, any reason will do." Stated beliefs may sometimes be rationalizations for inevitable actions when the actual reasons cannot be stated. Beliefs may

therefore be expressed publicly to provide a smoke screen for the real reasons. Perhaps little harm occurs when the deception is designed to fool other people. The socially acceptable belief or rationale may enable the speaker to save face, maintain dignity, or appear altruistic. However, when individuals deceive themselves, believing and stating a false rationale may cause trouble. Suppose a particular individual publicly states that the reason for not accepting a job offer in the Midwest is a fear of tornadoes. Perhaps the real reason, however, is a reluctance to move away from family and friends, but the individual does not want to admit either to them or to himself that he is dependent upon those relationships. How will this person react to evidence that his fears are exaggerated? When presented with factual information that tornadoes are one of the least frequent causes of death (e.g., fewer people are killed by tornadoes than by lightning), he might then face the dilemma of whether to accept a position that he does not want, inventing another socially acceptable reason for the decision, or to argue with the facts. None of these alternatives puts the individual on firm ground for making an important decision. If he can acknowledge his actual rationale to himself, even if not to anyone else, he can feel confident of making the right decision.

Reasons for the Use of Deceptive Beliefs

While in practice it may be impossible to ascertain whether a stated reason is the actual reason, is designed to deceive others, or is self-deceptive, it may be useful to understand why deception is used at all. Basically there are two reasons for the use of deception: (1) society reinforces the decisions of individuals who give socially acceptable reasons for their behavior and punishes individuals who engage in the same behavior for unacceptable reasons; and (2) conflicting values and goals within each individual make it inevitable that any decision advances some objectives while ignoring others.

Differential Reinforcement of Rationales

People are judged not just by their actions but by the reasons they give for their actions. Corporations hire public relations people to emphasize their valuable public services and to minimize their desire for financial profit. Politicians seeking office emphasize their altruistic service in the public interest and minimize their own desire for financial security, power, and prestige. No politician would ever be elected on the theme, "I need the money and want to feel important."

In career decision making, people usually state as justifications for their actions or potential actions beliefs that are socially unacceptable reasons for these same decisions often exist. Whether individuals deceive themselves in stating socially acceptable reasons is a problem that must be addressed elsewhere. However, it is important at this point to recognize that the real reasons for human decisions are often complex and deceptive.

Table 1 presents some examples of socially acceptable and unacceptable rationales for making various decisions.

As long as our society differentially reinforces rationales for behavior in addition to the behavior itself, we will continue to find people giving socially acceptable reasons for what they have decided to do. In some cases the socially acceptable reasons may be real reasons, but there may be other real reasons which are not publicly stated. Individuals who are unaware of their real reasons are, in effect, deceiving themselves. Whether such self-deception will result in any harm may depend upon the particular circumstances. However, the injunctions to "know thyself" and "to thine own self be true" argue against any virtues in self-deception.

TABLE 1

SOCIALLY ACCEPTABLE AND UNACCEPTABLE DECISION RATIONALES

Decision	Socially Acceptable Rationale	Socially Unacceptable Rationale
1. To accept a job offer in a particular location	1. Wishing to be located in an area close to one's relatives	1. Wishing to be located in an area close to a particular person with whom one has no socially sanctioned relationship
2. To search for a position in a particular large community	2. Wanting to be in an area containing a large number of persons who share culturally approved interests (e.g., symphony concerts, museums)	2. Wanting to be located in an area containing a large number of persons who share the same socially disapproved interests (e.g., marijuana use, homosexuality)
3. To choose particular hours for work or classes	3. Desiring work/class hours that permit one to associate with family and friends	3. Desiring work/class hours that permit one to associate with a particular person with whom one has no socially sanctioned relationship (e.g. electing Chemistry 107 because an attractive member of the opposite sex was observed enrolling in that class)
4. To join a particular organization, institution, or occupation	4. Seeking to come into contact with potentially useful business associates (e.g. morticians earn enough to join the Country Club)	4. Seeking to come into contact with socially disapproved sexual partners (e.g., necrophiliac choosing to become a mortician)
5. To work in a particular work setting	5. Wishing to have legitimate access to socially approved products or services (e.g., choosing airline employment to receive free air travel)	5. Wishing to have illegal or unethical access to desired products or services (e.g., a forger who can alter airline tickets seeking work from an airline)
6. To accept a low-level position	6. Seeking to learn the business from the ground up	6. Avoiding potential failure by choosing easy work tasks
7. To work toward a prestige-oriented occupational objective	7. Wishing to be of maximum service to humankind	7. Attempting to please some significant other (e.g., satisfying a parent who wants offspring to become a physician

Conflicting Values

The tortured reasoning of the human mind sometimes results in self-defeating behavior. Let's begin with the assumption that human beings want to think well of themselves: that is, they desire a sense of personal worth or self-esteem. One basis for this self-esteem is derived from the reactions of other human beings. There is clear evidence that the emotional reactions of others cause different self-attributions.

Society tends to get angry at people who fail when they could have succeeded if they had only tried. But society expresses pity for those who fail through no fault of their own. These differential emotional reactions can provoke some self-defeating cognitive distortions.

Consider the reasoning process of a partially fictitious Mary Smith. Mary wants to achieve two goals simultaneously: (1) to be competent in her academic achievement, and (2) to be thought of as competent by others. A straightforward method for achieving both goals would be for her to study hard and achieve well to improve her grades which would be observed by others. She would then be thought of as more competent by those who observed her progress.

However, Mary is plagued by a fear of failure. Suppose that she fails in her attempt to be competent academically. Failure does not necessarily mean failing a course with a grade of F. For some individuals, failing is defined as achieving a B grade, or even achieving a grade that is merely second highest in the class. But for purposes of our illustration, Mary's particular definition of failure is irrelevant.

Mary is so afraid of failure that she anticipates what people might think or say if she failed. Suppose they were sympathetic about her failure. She would interpret their sympathetic reaction as a signal that they thought her failure was beyond her control—that she had low ability, that her professors discriminated against her because of her race or sex, or possibly that she was physically ill, all conditions over which she would have no control. However, that others might attribute her failure to her own low ability would defeat the goal of having others think she is competent.

Suppose, however, that other people whom she values became angry when they found out that she had failed. She would interpret their anger to mean that they thought she had the ability to succeed but simply chose not to work hard enough. Their anger would mean that they thought she could have succeeded, that she had the ability to succeed, and thus would signify to her that she had achieved one of her major goals—to be thought of as competent.

Now, then, Mary is faced with a practical decision: how much time should she spend studying for her courses? Her thought processes might go something like this: "I want to be perceived as competent. If I expend very little time and effort on my studies and I fail, I can easily attribute my failure to my own lack of effort rather than doubt my own ability. Of course, I will have to endure the anger from my loved ones, but that is a small price to pay for the fact that their anger indicates that they know I have the ability. Their sympathy or pity would be worse because such emotions would confirm my worst fear, namely, that my failure was due to my own lack of ability. It would be handy to have some other excuse for failure, such as prejudice or illness. If I felt I could use those excuses, I could still try hard and tolerate failure. However, if I do *not* study hard and consequently fail, I can guarantee that others will continue to think that I have the ability but simply chose not to use it. If I study hard and still fail, both they and I will know that I lack ability. The choice is clear: I must not study very hard.

While the exact words in this example are fictitious, they represent the actual type of thinking engaged in by many people, as revealed to sensitive counselors. Failing to study when one's stated goals are to be competent and to appear competent is self-defeating. However, by following the devious thinking process just outlined, it becomes possible to understand how people can state one goal and still engage in a behavior inevitably destined to defeat it.

A Case Study

I recently conducted an interview with a young man (let's call him Hank) who had a high need to achieve in his chosen profession of filmmaking. When asked to describe the reasons for his high achievement motivation, Hank cited his early failures in sports and the fact that as a child he considered himself ugly and fat. He described how in high school he eventually achieved some recognition by losing weight and taking up photography.

Finally, however, toward the end of the ninety-minute interview, Hank acknowledged the fantasy that is really driving him to become a successful filmmaker: he fantasizes that his future artistic success will enable him to become the lover of his former school teacher, ten years his senior. He stated that he had never before admitted this fantasy to anyone. He would not want to risk testing the fantasy against reality because he would not want to lose so powerful a driving force. He hated to admit that this fantasy is the driving force that keeps him going but stated, "I'll be honest with you, it is."

In this interview Hank finally acknowledged to one other person, and perhaps to himself, that he needed this fantasy. He valued his professional accomplishments and he also valued his affection for his former school teacher. In the interview he acknowledged the connection between them. His testimony illustrates the emotional power of fantasies in career decision making.

Hank also discovered an important value conflict and worked out a way to resolve it. Note the following excerpt from the dialogue between the interviewer (I) and the subject (S) taken about seventy minutes into the interview:

I: You indicated before that you were skeptical of middle-class values.

S: Oh, okay, yeah. That would be a big one. I am skeptical of middle-class values. It scares me to think that everybody, well, a photographer really influenced me, I can't remember his name, but he did. Suburbia was his work. He did it in California, in Santa Barbara, and the important things to those people were, well, "What kind of car am I going to buy next?" for one thing, "Oh, I just got a new gas grill for outdoors."

I: Uh-huh.

S: And "We just got a new pool put it" and "My son Bob rushed for 200 yards last night and he's gonna go to a big school out East and learn how to become an accountant." (laughing) No, no, this can't be. That's like a nightmare. That's like a nightmare.

I: So those kinds of material wealth don't have any appeal to you.

S: Well, I don't know if it's material wealth or just that.

I: the attitude that goes with it.

S: Yeah. The attitude that goes with it. I mean, here is this item.

I: Uh-huh.

S: And I am proud of this item because

I: Uh-huh.

S: it permits me to—it somehow elevates me in the social strata

I: Uh-huh.

S: stratum, anyway. (laughing) I said, come one. That's really ridiculous.

I: Uh-huh. Let me push you a little bit on this.

S: Okay.

I: You said you would like to make a lot of money.

S: But I

I: But what do you want to do with that money after you make it? Or is just making it and counting it

S: Oh, I don't think counting it. I think making it is important. Because it's a measure in this society of what one is worth. But what would I do with it after I had it? I have no idea.

I: Uh-huh.

S: I don't even think it would be okay, I'd buy a really nice house and a Lamborghini—you might not know what it is, but it's a very expensive Italian sports car.

I: Uh-huh.

S: Because, I don't know. That's always been exciting to me.

I: Uh-huh.

S: I might buy a little, oh my god, I don't believe what I'm saying, you know, and then I would be, holy mackerel! (laughing) I don't believe what I'm saying. I was just in another class bracket.

I: You got it.

S: Oh my god! Maybe I'd be better off without it, you know. (laughing) Maybe now that I don't have any money, you know. (laughing)

I: (laughing)

S: Well, I'm glad you pointed that out. Oh my god! (pause) Son of a gun! (pause) Son of a gun. A nightmare, only more expensive. (laughing)

I: (laughing)

S: I mean, buddy, I tell you, that was a good one. That's the biggest revelation I've had in some time.

I: Uh-huh. (pause)

S: Oh, boy. (pause) So what don't I like, (laughing) that's something. Well, maybe this is it then. Okay, maybe I am a materialist at heart. Maybe I do want that stuff because, yeah, I do want it, all right?

I: Okay, all right.

S: But maybe I don't want it in the middle.

I: Uh-huh.

S: Okay.

I: You want it up at the top?

S: Yeah.

I: Uh-huh.

S: I mean, I'll never have it way at the top because I never inherited any money, right? But I'll have it. I can go as high as I can. To heck with the middle class.

I: Uh-huh.

S: I want the big one.

I: Uh-huh.

S: Okay, and if I don't, anywhere but the middle, I'll, I'll take.

I: You'll go to the bottom.

S: Well, no, well, not the bottom.

I: Not the very bottom but

S: I mean, I'll run around the campus circuit all my life if I have to.

I: Yeah, uh-huh.

S: Maybe, because, yeah, I want those items, okay.

I: Uh-huh.

S: As much as I hate to admit it,

I: Uh-huh.

S: I would like those material things.

I: Uh-huh.

S: You betcha!

I: Okay. Is that hard to say?

S: No, it felt good to tell you the truth.

This excerpt is particularly interesting because in a few short moments Hank moved from attacking materialistic values to acknowledging not only that he was a materialist at heart, but that he wanted the very best materials. The revelation seemed to hit him with a stunning emotional impact. Yet at the end he acknowledged that it had felt good to tell the truth. A classic instance of reexamining presuppositions to clarify values!

The Pain of Career Decision Making

One of the least acknowledged facts about decision making is that it hurts. Making decisions is a painful process. Some people will do almost anything to avoid making a decision. Career counselors often report that their clients promise to look up information in the career planning library but seldom do. Clients give excuses and alibis about their failure to comply with their own agreed-upon assignment. They are like people who know they should have a dental checkup but cannot bring themselves to visit the dentist. The anticipated pain is too great.

The people who need help most desperately find the process most painful. For example, Saltoun (1980) found that students with the highest fear of failure were "less vocationally mature" on five of eight measures and devalued the career planning task. Those who feared failure most tended to avoid vocational planning and vocational information. Harren et al. (1978) investigated potential influences on college students' choice of major in a complex path analysis study. They concluded that progress in the decision-making process exerted the greatest influence on achieving a satisfying choice of major. So it appears that students with the greatest fear of failure avoid the decision-making process that could help them.

George (1980), in a brilliant analysis of presidential decision making, pointed out the stressful nature of the process and he identified four reasons why political decision making is so stressful. These same four causes of stress are involved in career decision making:

- **Threat to self-esteem.** Decision making involves a threat to one's major values. It provides a test of one's ability to succeed and hence one's sense of self-esteem. The degree of respect one will earn in the eyes of present and future colleagues is at stake. The stress can lead to the kind of tortured thinking represented by the fictitious Mary Smith cited earlier.

- **Surprise.** The need for certain decisions can be a surprise and a shock. Immediate decisions are required, for example when a person has been suddenly laid off or receives a new job offer.

- **Deadlines.** Many decisions have deadlines. Applications to colleges and jobs usually specify a deadline for submitting them. After colleges notify candidates of their acceptance, a deadline is set by which time the candidates must notify the colleges about which one they will attend.

- **Absence of Allocated Time.** No designated time is available to work on the problem. For many problems of an academic nature, time is allocated for work. Mathematics students go to classes at predetermined hours to receive instruction and are given homework assignments on which they are expected to devote a certain number of hours per day. Piano students are expected to practice an hour per day. But when does one work on a career decision problem? No time is assigned for this. Whatever work is done must be squeezed in around other commitments. As a consequence, there is no set time to study and think about the problem. Instead, worry is persistent. One tends to become saturated with worry about the problem without having time to do something about it.

George then goes on to point out the typical reactions to stress in the political realm. Those same reactions also occur in career decision making:

- **Impaired attention.** The decision maker tends to ignore important values, alternatives, and information and falls back on old habit patterns.

- **Increased cognitive rigidity.** Creativity tends to diminish. The decision maker is less receptive to new information that challenges old beliefs. Stereotypical thinking occurs. There is less tolerance for ambiguity. There is a tendency to shortcut the search for information and decide prematurely in order to terminate the pain.

- **Narrowed perspective.** The decision maker becomes more concerned with the immediate effects and less concerned with the long-range consequences. Side effects tend to be ignored. Other options are overlooked. Information overload occurs. The decider can no longer process the information that is available.

- **Displaced blame.** Responsibility for the problem is placed on the environment. The decision is sidestepped or placed on other people.

Similarly, Cellini (1980) found that individuals classified as externally oriented (according to Rotter's [1967] scale of internal/external control of reinforcement) were more dysfunctional than internally oriented individuals in making vocational choices.

METHODS FOR IDENTIFYING TROUBLESOME PRIVATE BELIEFS

How can we determine the thoughts that influence career decisions? Almost by definition the phenomenon is unobservable by direct methods. Thoughts cannot be seen, heard, felt, tasted, or smelled. The only person with direct access to the thoughts is the thinker.

In the history of psychology, introspection was one of the first methods used to obtain data. It soon became discredited for obvious reasons. Self-reports of internal states were notoriously unreliable. Subjects could distort their reports either deliberately or inadvertently. Direct behavioral and performance measures proved to be vastly superior for most purposes.

So it is with some trepidation that I suggest that introspection might have some uses for investigating an important phenomenon. Perhaps history does progress in cycles and we are reentering the introspective cycle. However, this time we can profit from what we have learned. One excellent source book that points out the differences between cognitive-behavioral assessment methods of the present day and introspective methods of the past has been prepared by Kendall and Hollon (1981a). Chapters prepared by a number of leaders in the field point out the problems of and prospects for assessing cognitions in relation to attributional styles, belief systems, self-referent speech, imagery, motivation, interpersonal problem-solving skills, clinical interventions, *in vivo* assessment, and the assessment of schemata.

The problem of identifying troublesome beliefs in career decision making actually breaks down into two subproblems: (1) How can we collect samples of the thinking that goes on during the career decision-making process? and (2) How can we identify which of the thoughts expressed are most likely to be at the root of the trouble?

Methods of Sampling the Thinking Process

Since Mahoney's (1977) call for attention to the assessment problems in cognitive-behavioral approaches, several helpful papers have appeared describing measurement approaches and problems (Glass 1980; Klinger, Barta, and Maxeiner 1981; Sutton-Simon 1981; Hollon and Kendall 1981b). Cognitive assessment techniques may be categorized under five major headings. Thirteen techniques have been identified as potentially relevant for career decision making, but so far only a few of these techniques have actually been used for that purpose.

Interview Techniques

Interviewing has been the standard method by which counselors and their clients interact. It is the source of most counselor impressions of client thinking. Only recently, however, have attempts been made systematically to obtain client beliefs about career decision making from interview data.

Structured interview. Mitchell (1980) used structured interviews with two subjects at a time in order to obtain cognitions that were interfering with the career decision-making process.

Subjects with career indecision problems were recruited for the study. Instructors in the cognitive restructuring treatment program listened to subjects describe their career decision-making problems and identified examples of maladaptive beliefs or distorted thinking processes. They kept notes, which were later discussed with the subjects. Mitchell used subjects in dyads so that subjects could share ideas. In addition each subject listened to a tape recording of the interaction and listed the beliefs of both. Although these structured group interviews included two subjects and a counselor, there is no necessary reason why the same procedure could not be applied with three or more subjects.

Individual interviews represent a more conventional way of identifying thinking patterns. A partial transcript of one such interview appears in this document. The interview illustrates that it is possible for clients to identify motivations for their career drive even if they had never revealed them earlier. It also illustrates how an emotionally charged value conflict can be identified and clarified.

Free association. The psychoanalytic technique of free association has possibilities for identifying the thought processes in career decision making. Free association is relatively unobtrusive in that the counselor or experimenter is not providing specific cues or suggestions to which the client reacts. The primary disadvantage is that the signal-to-noise ratio is disconcertingly small. A counselor might have to listen for a long time to identify a relevant thought unless the client is primarily concerned with career problems.

Reconstruction of Prior Events

Thoughts occur quickly and spontaneously as events transpire. At times, it is desirable to find out what thoughts transpired at certain key moments in the past. There are two primary methods for reconstructing past thoughts.

Stimulating recall through audio or video playback. A particular interview or interaction can be replayed by means of an audio or video tape recorder. The tape can be stopped, either at random moments or at predesignated moments, and the subject can be asked to recall the thoughts that occurred at these moments. Subjects find it relatively easy by this method to recall thoughts that they had at a previous time and are able to report them. Norm Kagan's method of Interpersonal Process Recall (Kagan and Krathwohl 1967) is one of the most well-developed examples of this technique.

Thought listing. Glass (1980) cites a study by Cacioppo, Glass, and Merluzzi (1979) in which high and low socially anxious college men were informed that they would be interacting with an unfamiliar woman. Three minutes later they were asked to list the thoughts that occurred to them at the moment that they were informed of this proposed interaction. The listed thoughts were then compared for the high and low socially anxious men.

A similar technique could be used in the career decision-making area. For example, subjects could be told that they were going to have an interview with a counselor to discuss their future career plans. Three minutes later they could be asked about the thoughts that occurred to them upon being informed of the potential interview. Comparisons could be made among groups that were undecided and those that had made commitments to specific careers. Reasons for dreading or anticipating the interview might be enlightening.

Self-Monitoring

Hollon and Kendall (1981) presented a detailed analysis of seventy-five studies in which *in vivo* self-monitoring of behavior had been used. None of these studies concerned any aspect of career decision making. *In vivo* self-monitoring can take place immediately in the natural situation where problem behaviors occur. It does not require the retrospective memory of some of the other methods.

Dysfunctional Thoughts Record (DTR). Hollon and Kendall (1981) gave credit to Albert Ellis's Institute for Advanced Study in Rational Psychotherapy for originating the basic idea of recording thoughts and their associated events. Beck (1979) developed a variation of this recording instrument for the treatment of depression. The clients record a specific problem situation, the emotions that accompany it, and the automatic thoughts that seem to be associated with these emotions. They then counter the automatic thought with a more rational thought. They record the intensity of their emotional responses on a 100-point self-rating scale both before and after the rational counterthoughts. Both kinds of thoughts are also rated for believability.

Although the DTR procedure has not yet been tried on career decision-making problems, there is no reason why it could not. Subjects who were having difficulty approaching career decision-making tasks could be asked to record their situations, emotions, and thoughts. Table 2 contains a fictitious illustration of a DTR applied to a career decision-making problem.

The DTR procedure is a form of therapy as well as diagnosis and assessment. It teaches clients to record the automatic thoughts associated with their unhappy feelings and to counter those thoughts with more constructive self-talk. Rating the intensity of feelings is a way of providing self-reinforcement for feeling better.

Thinking aloud during in vivo tasks. The think-aloud technique requires subjects to perform specific problem-solving tasks and to report the thoughts that occur to them while they are solving the problem. Glass (1980) cites the work of Newell and Simon (1972) using cryptarithmetric problems and the work of Crager (1959) using anagrams.

The think-aloud method might be a useful adjunct for investigating career decision making during simulated problem solving. For example, Krumboltz, Hamel, and Scherba (1982) describe the Career Decision Simulation, a technique for representing the process of making a career decision. The standard instructions have the subjects work silently for up to two hours with written and audio-taped materials to pick out the best of twelve fictitious occupations. However, there is no reason why subjects could not be instructed to think aloud as they attempt to determine the occupation that best fits their values. Some interesting insights might be obtained in the process. Other types of real, as well as simulated, tasks could be accompanied by instructions to think aloud either in the presence of an investigator or into a tape recorder.

Thinking aloud during imagery. Klinger, Barta, and Maxeiner (1981) described the use of imagery in obtaining thought processes. Clients may be asked to generate their own images, or the therapist may suggest very specific scenes in order to stimulate the imagery. The clients may report the imagery in a free response format, or the therapist may intervene with specific questions or suggestions for altering the imagery. No work on career decision-making problems was reported, but again there is no reason why the application of these techniques to career decision making could not be made.

TABLE 2

SAMPLE DYSFUNCTIONAL THOUGHTS RECORD

Date	Situation	Emotion(s)		Spontaneous Thought(s)	Rational Counter-Thought(s)	Outcome	
11/15	Sitting in career library. Can't bring myself to look up information.	Guilty Slothful Helpless	80% 100% 75%	I'm wasting time. I shouldn't have promised to come here. My real questions can never be answered in this library anyway. There is no hope for me. 85%	I could be writing down my real questions to discuss with my counselor. I could look up one fact just to see what kind of stuff these books contain. It's normal to feel frustrated when making a major decision in the face of inevitable unknowns. 65%	Guilty Slothful Helpless	20% 100% 50%

Fantasizing about ideal jobs and the implications of these jobs for one's future life has often been requested of clients by counselors. Needed is a specific analysis of the thoughts that seem to block a person from achieving the ideal fantasized. Perhaps only some of the blocks are real, while others could be challenged and overcome.

Random thought sampling. Thought sampling is a procedure in which a "beeper" sounds at random intervals and the subjects are asked to record their thoughts at the moment that the beep began. This method has the advantage of obtaining representative thoughts at various times of the day or night—thoughts of which the subject might be unaware and unable to record. The random beep provides a cue that calls attention to the need to record the thought that occurred at that exact moment. Klinger, Barta, and Maxeiner (1981) discuss the advantages of the thought sampling technique:

> Thought sampling can be used to assess current concerns, imaginal and affective content as a function of a client's typical activity settings or interpersonal situations, coping styles, thought automatisms, and so forth. Since the method relies on external rather than internal signals, it may be less subject to distortion than self-monitoring, although this remains to be investigated. Like self-monitoring, thought sampling may produce a therapeutic effect by itself, although this, too, is still undemonstrated. It is, however, certainly capable of yielding feedback on the effectiveness of therapeutic manipulations. (p. 182)

(The "self-monitoring" referred to in this quotation is obtained by means of the Dysfunctional Thoughts Record described earlier.)

Inferences from Behavior

Most of the methods for obtaining evidence of the thinking processes are reactive in that the very process of obtaining the record has the potential for distorting the content. Not many methods are available for obtaining unobtrusive evidence of the thinking process, but two possibilities exist.

Spontaneous private speech. Glass (1980) defined private speech as naturalistic and consisting of verbalized self-instructions that are spontaneous and not intended for a listener. Usually such self-talk is only available from young children. Kendall and Hollon (1981b) described several studies in which unobtrusive recordings were made of spontaneous speech. The only study using adult subjects was conducted by Kendall et al. (1980). They recorded the spontaneous speech of impulsive and reflective adults who were performing the Matching Familiar Figures tests.

Investigators can never be sure that spontaneous speech accurately represents internal self-talk. Adults particularly have been taught to inhibit their expression of internal self-talk, censoring it in various ways and distorting it either deliberately or without awareness. Kendall and Hollon (1981b) believe that the method still has a number of advantages: "Though there are problems with the unobtrusive recording method for assessing self-statements, appropriately and reliably coded verbal behavior can provide useful information for understanding cognitive task strategy and behavior, for examining the effects of therapeutic interventions, and for checking on the effectiveness of experimental manipulations" (p. 93).

No evidence has been uncovered of the use of recording of spontaneous private speech in investigating the career decision-making process. Of course, recordings of interviews have been

made, but the talk was not private and subjects were always aware that they were being recorded. The most likely use of this technique would be with younger children given career problem-solving materials or exposed to career-relevant learning experiences. Spontaneous reactions could be recorded and content analyzed. Evidence could be gathered on the effectiveness of various types of learning experiences by assessing variables, the types of questions that children spontaneously ask, indications of their interest or lack thereof, and there attention span during various types of presentations.

Inferences about thoughts of others. Most of us have had the experience of conversing with another person who said, "You must have been thinking that . . ." and identified the very thought that we were afraid to express. Human beings can make inferences about the thoughts of others—sometimes with surprising accuracy. Perhaps they are simply expressing the thoughts that they would have had in the same situation. If so, the technique is a modified projective test.

The danger, of course, is in imputing thoughts that do not exist. Subjects can simply be asked whether the thought attributed to them is indeed accurate. One might still remain skeptical about their affirmation or denial.

We live in a society that believes that the thoughts of others can be accurately inferred and that administers severe consequences as a result of those inferences. Consider legal trials in which the intentions of the accused are at issue. Did the accused premeditate the crime? Evidence of various activities and statements are brought to bear on whether or not the accused engaged in a particular thinking process in advance of the crime. Essentially the jury is being asked: "Is there any other way to account for these actions except to assume that the accused planned this crime in advance?" Checking with the accused to ascertain the accuracy of the inference is of course in vain because the accused stands to be punished more severely if premeditation is "proved." The accused would have to be foolish indeed to admit that the crime had been planned in advance, so denials have no relevance. Juries are able to agree on evidence of premeditation without testimony from the accused. By and large our society is satisfied that inferred thought processes ought to be considered in judging actions and that lay people can make such inferences with sufficient accuracy that severe penalties can be based on those inferences.

A similar anthropomorphic process occurs when people deal with animals. We have heard people say, "That dog thinks she is a person." Of course, no one asked the dog whether she thought she was a person, but the dog engaged in some behavior that led the observer to that inference. A number of independent observers might well come to the same conclusion. While there is no ultimate test of the accuracy of inferences about a dog's thinking, we can estimate the reliability among observers and the usefulness of the inferences in predicting future behavior.

In the career decision-making area there might be a number of instances in which judges could be asked to infer what another person was thinking. Why do students refuse to use the career library? What do high school students think when they are asked to choose a college to attend? What does an employee think when asked to transfer from one location to another? Alternative answers to these questions have implications for career counseling services, for college recruitment activities, and for employee morale. Inferences can be checked for reliability, they can be compared with self-reported perceptions, and they can be tested as a means of predicting future behavior.

Psychometric Instruments

Psychometric instruments vary in their degree of structure from objectively scored paper-and-pencil tests to free response projective devices.

Inventories. Inventories to assess human cognitions and beliefs are too numerous to mention. Sutton-Simon (1981) has summarized a number of efforts to build psychometric instruments to measure irrational beliefs. None of the examples presented, however, involve career decision-making beliefs. Just a few examples of recent inventories developed to measure cognitions relating to career decision making will be described here.

- *A Questionnaire to Determine Beliefs about Career Decision Making (Mitchell and Krumboltz, cited by Mitchell 1980).* This thirty-nine-item questionnaire asks subjects to assess the degree to which they believe their current interests, values, skills, and personality traits are constant over time. They are asked to rate their capabilities to succeed and to plan a career. They report their degree of anxiety about career planning, describe the way in which they think a career decision should be made, and report the extent to which they endorse certain irrational attitudes. Eight subscores are calculated: rigid behavior, rigid beliefs, confidence in beliefs, desire to change beliefs, fear of failure, nonrational career decision-making style, maladaptive emotionality, and overgeneralization.

- *Inventory of Anxiety in Decision Making (Mendonca 1974).* This inventory is in two parts. The first part presents ten common types of vocational decisions and asks respondents to write specific instances of current decision problems and rate their difficulty. In the second part subjects respond on a five-point scale to descriptions of possible emotional reactions to the process of wrestling with a vocational problem.

- *An Attitudinal Assessment of Decision Making (item wording by Clarke Carney, instructions and rating scales devised by Mitchell [1980]).* Fifty-one items are presented and two subscores are derived: maladaptive behavior (e.g., "I avoid responsibility for the choice") and maladaptive belief (e.g., "Others know what's best for me.")

- *Efficacy Questionnaire (Mitchell, Krumboltz, and Kinnier, cited in Mitchell 1980).* This questionnaire was designed to evaluate the effectiveness of a career decision-making workshop. Subjects identify where particular skills have been learned, which decisions they are currently in the process of making, the extent to which they have learned any useful skills for making those decisions, the degree to which they are satisfied with the outcomes of the decisions they have already made, and the extent to which they are confident that they can make each decision produce satisfying outcomes. Representative decision situations include "deciding on an expensive purchase," "deciding on a summer job," and "deciding on a program of study for the next year."

- *My Vocational Situation (Holland, Daiger, and Power 1980).* Three subscores are derived from this inventory: the identity scale (e.g., "I don't know what my major strengths and weaknesses are"), the information scale (e.g., "I need the following information: how to find a job in my chosen field"), and the barriers scale (e.g., "I lack the special talents to follow my first choice"). Holland, Gottfredson, and Power (1980) have presented some evidence for the construct validity of these scales.

- *The Career Decision Scale (3d ed.) (Osipow et al. 1976).* This short eighteen-item questionnaire is designed to identify the specific reasons why people might be

undecided about a career choice (e.g., lack of information, need to satisfy others). A manual summarizing some of the research that has been done on the instrument has been prepared by Osipow (1980).

- *Decision Making Questionnaire (Krumboltz et al. 1979).* This 126-item questionnaire with 282 scorable responses is an exhaustive attempt to identify decision-making styles. Style is inferred from self-reported behavior. Five decision situations (e.g., choosing a college) are presented, and subjects are asked to report their specific thoughts, statements, and actions in making each decision. These behaviors are then categorized into five styles: rational, intuitive, impulsive, dependent, and fatalistic.

A large number of other commercially available instruments have been devised, which include measures of attitudes and beliefs about career decision making. An annotated bibliography describing these instruments has been prepared by Mitchell (1982).

Semistructured questionnaires. A semistructured questionnaire can be thought of as a highly structured interview. It differs somewhat from an interview in that written questions are administered in a prescribed order and the responses are self-recorded. A recent development that has implications for the career decision-making area involves the concept of "current concern." According to Klinger, Barta, and Maxeiner (1981) a "current concern" is defined simply as ". . . the state of an organism between the time that it becomes committed to pursuing a particular goal and the time that it either consummates the goal or abandons its pursuit and disengages from the goal" (p. 162).

Clearly people who are trying to make a particular career decision have a "current concern." The assessment problem is to identify clients' current concerns, their value and perceived attainability, and the extent to which the pursuit of each concern is progressing as desired. Several versions of the Concern Dimensions Questionnaire (CDQ) have been devised. The CDQ asks respondents to list a number of things that they have "thought about most today and yesterday." Respondents are then asked to rate their level of commitment to pursuing each goal. Scales are included to measure anticipated causal attribution (e.g., how much the outcome will depend upon persistence) and certain emotional reactions associated with working toward the goal. The present self-administered interview questionnaire requires the average subject over four hours to complete. Concerns have been grouped under such headings as family and home, roommates and nonrelatives, home and housekeeping, sexual intimacy, friends, and mental and emotional health. No category for decision making was presented, but there is no necessary reason why such a category could not be included in future work along the same line.

Projective instruments. Atkinson (1958) was one of the first to use the Thematic Apperception Test (TAT) as a method for measuring "achievement motivation." The basic approach was to ask subjects to tell stories about ambiguous pictures. These stories were then scored for evidence of a need for achievement (e.g., whether a character in the story was competing against some standard of excellence). The assumption was that respondents project their own needs onto the characters in the pictures, and by telling stories about others they were in fact describing themselves. The assumption was questionable despite the large amount of research that was done with the instrument. Independent assessments of reliability and validity were discouraging (Krumboltz and Farquhar 1957).

However, projective techniques such as this might have some uses if modifications were made in the directions and scoring. The standard directions have assumed that subjects should not know the instruments are designed to detect their projections. But why should subjects be deceived about the purpose of the instrument? Perhaps the directions could be modified so that

subjects are informed that the purpose is to find out what they are thinking about themselves, not other people. The directions might say, in effect: "Imagine that this person would react in the same way that you would react if you were in that situation. Make your story as true to life as possible. Let your character think in the same way that you would think." Possibly with directions such as these respondents would reveal their own thinking patterns more openly. In any event they might be less likely to engage in fantasies that were unrelated to their own thinking processes.

Guidelines for Identifying the More Crucial Cognitions

The preceding section described thirteen techniques for obtaining samples of clients' thinking. Obtaining samples of thinking is the easy part. The hard part is in discriminating which of the many thoughts produced are truly central to a client's problem. While no magic formula is available to discriminate central from peripheral thoughts, the following guidelines may be useful.

Examine Assumptions and Presuppositions of the Expressed Belief

I once asked a Stanford University freshman, "What is necessary to be successful in life?" She replied, "Talent, intelligence, determination, and having been admitted to Stanford University."

I said, "Notice what you have said to me. Talent and intelligence are unchanging aptitudes. Determination is an unchanging personality trait. Having been admitted to Stanford University is a past event. Your answer to my question implies that you already have or don't have whatever is needed to be successful in life. So there is nothing you can do about it now. Is that the way you see it?"

The freshman was shocked that I would perceive her answer in this way. She said that she did not really mean that there was nothing more that she needed to do. However, by challenging the underlying assumptions or presuppositions behind her answer, I stimulated her to examine her rationale for success more carefully.

Her answer can be contrasted sharply with another answer: "I need to learn as much as I can now. I need to learn how to treat other people. My succes depends upon how hard I study, which people I choose as friends, and what I accomplish." This second answer clearly implies that success depends upon current actions and decisions, not upon unchanging traits and past events.

The difference in responses is related to the internal-external dimension proposed by Rotter (1967), but the distinction is more one of activity versus passivity, behaviors versus traits, and current performance versus past events. One might raise the question of which end of the polarity is really most helpful for achieving success in life. One could argue that talent, intelligence, and determination are indeed the traits that enable one to be successful. The question here, however, is not what concepts best account for future success, but what types of thoughts and self-talk best enable people to achieve their own goals. We don't yet know whether teaching people a different way of talking to themselves about success in life will produce the desired behavior, although there are some positive indications. For the moment we are simply identifying methods for helping people to see clearly the underlying presuppositions of their beliefs. One important presupposition may involve the identity of the person responsible for success.

Look for Inconsistencies between Words and Behavior

A young man asked for help from a counselor in making his career choice. He spent many hours talking with the counselor but could never seem to make much progress in his decision making. Eventually the counselor challenged him: "I wonder if you really believe that you need to make a decision at all. You may be thinking that you can get by without ever having to make a decision yourself." The young man sheepishly agreed with this assessment: "I came to see you because my parents were pressuring me to make a decision. I've always gotten what I wanted by just hanging around until it happened. I guess I still feel that that's how my career will be determined."

The counselor felt badly at having been deceived by the young man's apparent dedication to making a career decision. But the discrepancy between behavior and words became obvious. The old proverb, "Actions speak louder than words," gives a useful cue in identifying actual thoughts.

A frequent inconsistency occurs when clients say that they want to get information about alternative career possibilities but in fact make no effort to obtain that information. Calling attention to the discrepancy between statement and deed is a way of clarifying what they really want.

Test Simplistic Answers for Inadequacies

Clients usually come to counselors with a problem. The stated problem may or may not be the actual problem, but the stated problem is a logical place to begin. Let us imagine a counseling interview that proceeds as follows:

Client: I am totally confused and undecided about my career direction. I don't know what kind of an occupation I should enter. I was told that you could help me with this decision. What do you think I should do?

Counselor: Become a lawyer.

Client: Become a lawyer? Why did you say that?

Counselor: Why not?

Client: You don't even know whether I would enjoy doing the kinds of things lawyers do.

Counselor: How would I find out?

Client: You would have to find out what lawyers do and ask me whether those were the kinds of things that I would like to do.

Counselor: So you want to find an occupation in which you would enjoy the typical activities. Who do you think should do that investigation?

Client: Maybe I could do some of that myself, but it's not all that simple.

Counselor: What else affects your decision?

Note that the strategy taken by the counselor was to propose a specific answer to the problem posed by the client. The answer was arbitrary, but it could have been one possible answer to the client's dilemma. The client then responded by suggesting a criterion that needed to be satisfied. By jumping to a conclusion the counselor forced the client to generate factors that needed to be considered and correctly placed responsibility for investigating the problem and making the decision on the client. This technique is not necessarily recommended as a desirable counseling technique for most clients, but it was constructed to illustrate how a simplistic conclusion might facilitate client thinking.

The basic rationale of this strategy is similar to that of the counseling technique called "paradoxical intention." The counselor instructs the client to engage in an extreme of the very behavior that constitutes the problem. If the client says, "I can't sleep," the counselor says, "Good, tonight I want you to stay awake all night." In the career decision dialog the client is essentially saying, "I can't make a decision," and the counselor is replying, "OK, then I'll just make the decision for you."

The well-known educational psychologist, Dr. Ned Flanders, revealed how he happened to enter academic psychology. At a crucial point in his career he was trying to decide between two attractive job offers, one in industrial psychology and one in academic psychology. He and his wife were discussing the pros and cons as they were about to drive across the San Francisco Bay Bridge. His wife said, "Why don't you just flip a coin?" He flipped a coin and the decision came up heads, industrial psychology. Relieved that the decision was made, he started across the bridge. By the time he reached the other end of the bridge, he said, "That was the wrong decision, I'd rather go into academic psychology." Living temporarily with any decision gives one the opportunity to experience vicariously the feelings associated with that alternative. Any answer may be temporarily better than no answer. The thoughts and feelings underlying that answer can then be brought to the surface.

Confront Attempts to Develop an Illogical Consistency

George (1980) has pointed out that political leaders may strive to make a decision that is consistent with their past positions or consistent with some basic principle that they have advocated. A specific alternative in some current problem may then seem to have overwhelming saliency because of its consistency. Competing alternatives that are less consistent may seem less attractive even though one of them is a better solution to the specific problem at hand. George pointed out that evidence of this illogical consistency-striving might be an unwillingness to look for evidence that would challenge the belief, a refusal to address competing arguments, and repeated shifts in rationales in response to new facts.

The same kind of thing can happen in career decision making when a client adopts some basic principle, such as "I must choose an occupation that will please my father." If the client refuses to look at any occupation other than those approved by the father, refuses to listen to advantages of any other alternative, and comes up with new reasons for justifying beliefs when the old reasons are exposed as fallacious, we have evidence of possible illogical consistency-striving.

George pointed out that in the political realm discrepant information must pass stricter tests of admissibility than consistent information. Clients might find it easy to believe evidence consistent with what they already believe but treat with considerable skepticism any contrary evidence.

Decision making involves competing values. No one alternative will satisfy every value completely. Trade-offs must be arranged. Decision makers who close their eyes to the value of trade-offs may be trying to be consistent with some previously adopted principle. Emerson said that a foolish consistency is the hobgoblin of little minds. Consistency itself is no fault—only a foolish or illogical consistency. Exposing the consistency-striving provides an opportunity to explore whether the attempted consistency is worth the cost.

Identify Barriers to the Goal

A counseling problem usually consists of a goal that cannot be reached. Forcing clients to identify barriers to reaching their goals may be a constructive way of identifying their crucial thoughts. Consider the following fictitious counseling interview:

Client: I'm not satisfied with my present job.

Counselor: Tell me about the ideal job you would like to have.

Client: I'd like to be vice-president in charge of marketing with a big office on the top floor, access to a private jet, and a salary in six figures.

Counselor: That sounds nice. What's stopping you?

Client: The position is already taken.

Counselor: Will it always be filled? Will an opening never occur?

Client: Oh, eventually the incumbent will either retire, resign, be promoted, or take a job in some other company.

Counselor: When that happens, will you be ready for the position?

Client: No, the position actually requires a master's degree in business administration.

Counselor: Why don't you get a master's degree in business administration?

Client: I don't have the time or energy to pursue it, and besides, I'm not all that interested in business anyway.

Counselor: You are telling me that you would ideally like to have a job for which you are not qualified and don't want to become qualified.

Client: Yeah, I guess I'd like the money and perks but I really don't want the work and the responsibility. When it gets right down to it, my present job would be okay if I could just get my boss off my back.

In this example, identifying the barrriers to a goal revealed that the goal itself was not highly desired. The real goal, or at least a second goal, was revealed only after the discrepancy was exposed.

Challenge the Validity of Key Beliefs

Sometimes clients will state an assumption that they believe to be true—for example, "I would never want to go into research work because it would require me to work all alone and I really prefer being with people." Such a belief involves an overgeneralization about the nature of research work and is directly contrary to the research experience of many people. The client might find that some research projects would provide an opportunity to engage in team activities that would produce satisfying emotional relationships. But a client who holds that particular belief will not even begin to explore the possibility. Here are three kinds of questions that would be useful in various combinations to challenge such a belief:

1. How do you know that it is true?

2. What steps could you take to find out if it is true?

3. What evidence would convince you that the opposite is true?

If it turns out that the client has no basis for the assumption, is unwilling to take any steps to find out, and cannot even imagine any kind of evidence that would disprove the belief, we may have identified a belief at the root of some decision difficulty.

The real reason for avoiding research activities may be totally unrelated to the stated belief. Possibly the client is afraid of mathematics and considers mathematics essential for research. Rather than admit to a fear of mathematics, the client seizes upon another rationale to justify avoiding research.

Consider the following variation in the fictitious interview from the preceding section:

Client: No, the position actually requires a master's degree in business administration.

Counselor: Suppose a master's degree in business administration were not required, would you then be able to qualify for the job?

Client: Yes.

Counselor: How do you know that a master's degree in business administration is required?

Client: The current vice-president has one, so I just assumed that it was required.

Counselor: How could you find out whether the degree is required?

Client: Job descriptions in our company are public information. I suppose I could look it up.

Counselor: If you find out that a master's degree is not required, we could discuss other steps you could take to qualify for this job.

A person need not have every false belief exposed—only those that may prove crucial in enabling the person to move toward a satisfying career option. Challenging key beliefs can be done in a helpful, supportive manner.

Build a Feeling of Trust and Cooperation

The methods described so far may sound confrontive and harsh. If the client perceives them as a threat, no progress will be made in eliciting the client's innermost thoughts. The type of communication necessary here requires that the client trust the counselor. The information can be revealed only with the client's cooperation and a mutual agreement to achieve the same objectives. The counselor may well begin by presenting a rationale for the importance of uncovering beliefs, explain the methods that will be used to uncover them, and enlist the wholehearted cooperation of the client in this mutual endeavor.

Nisbett and Wilson (1977) have reviewed evidence suggesting that many people are unable to report changes in their internal states even though they behave as if the internal states have changed. This discrepancy between self-reports of internal states and behavior introduces a needed caution into the whole process for obtaining accurate self-reports of internal states.

A more recent study by Wilson, Hull, and Johnson (1981) confirmed that many subjects failed to report changes in internal states that would have been consistent with changes in their behavior. However, they state, "Self-report effects will correspond to the behavioral effects under certain conditions. It appears that people must be induced not only to think about the reason for their behavior but also to think about particular types of reasons. Subjects were much more likely to report new internal states when asked to think primarily about internal factors . . . and were somewhat less likely to report new internal states when asked to think about extrinsic factors . . ." (p. 67). Generalizing from their study, they conclude as follows: "The limits on self-knowledge seem to be severe, in that verbal reports are often poor indicators of cognitive processes and internal states. Unable to directly examine the workings of our minds, we are forced to rely on an inferential system, a system that is imperfect in its attempts at self-discovery" (p. 70).

These conclusions appear to be strongly worded considering the nature of the experiment on which they were based. The self-reports on internal states were based on four paper-and-pencil attitude questions about senior citizens plus one rating on a seven-point scale about self-perceived freedom in choosing to participate in one experiment rather than another. One behavioral measure was volunteering to help mental patients. However, it should be noted that no record was made of whether the subjects actually helped mental patients. Subjects might find it easy to say that they would be willing to volunteer but, when the time came, be unable to perform the pledged service. The reported correlations between attitudinal self-report items and behavioral measures averaged about .30. Given the inevitable, though unreported, unreliability in the short self-report item scale plus the dichotomous nature of the behavioral measures, such correlations are surprisingly high. Although the authors interpret the lack of correlation between behavioral and attitudinal measures to be indicative of some lack of accuracy in the attitudinal measures, it is equally possible that the behavioral measures were subject to distortion.

The subjects in this study were not induced to cooperate and reveal their innermost feelings and thoughts by virtue of the procedure that was used. A sensitive interviewer working with each subject might have been able to uncover the internal states associated with volunteering. The evidence presented does not allow the conclusion to be drawn that subjects were unaware of their internal states. It would be more fair to say that the experimental procedures were not designed to build a cooperative feeling of trust between experimenters and subjects so that the subjects would have reason to want to reveal their motives to the experimenter.

REFERENCES AND RELATED READINGS

Abelson, R.P., and Kanouse, D.E. "The Acceptance of Generic Assertions." In *Cognitive Consistency: Motivational Antecedents and Behavioral Consequents*, edited by S. Feldman, New York: Academic Press, 1966. pp. 171-197.

Atkinson, J.W. ed. *Motives in Fantasy, Action, and Society*. Princeton, NJ: Van Nostrand, 1958.

Beck, A.T. *Cognitive Therapy and the Emotional Disorders*. New York: International University Press, 1976.

Bem, D.J. "Self-Perception Theory." In *Advances in Experimental Social Psychology*, edited by L. Berkowitz, Vol. 6, New York: Academic Press, 1972.

Cacippo, J.T.; Glass, C.R.; and Merluzzi, T.V. "Self-Statements and Self-Evaluations: Cognitive Response Analysis of Heterosexual Social Anxiety." *Cognitive Therapy and Research*, 3 (1979): 249-262.

Cellini, J.V. "Locus of Control as a Personality Context for Career Indecision." Paper presented at the meeting of the American Psychological Association, Toronto, September 1980.

Crager, R.L. "The Relation of Anxiety, Sex, and Instruction to Performance and Verbal Behavior during an Anagram Solution." Doctoral dissertation, University of Washington, 1959. *Dissertation Abstracts*, 1959, 20, 2900. (University Microfilms No. 59-5457).

Dweck, C.S. "The Role of Expectations and Attributions in the Alleviation of Learned Helplessness." *Journal of Personality and Social Psychology*, 21 (1975): 674-685.

Ellis, A. *Reason and Emotion in Psychotherapy*. New York: Stuart, 1962.

Ellis, A. *The Essence of Rational Psychotherapy: A Comprehensive Approach to Treatment*. New York: Institute for Rational Living, 1970.

Feather, N.T., and Simon, A.G. "Attribution of Responsibility and Valence of Outcome in Relation to Initial Confidence Success and Failure of Self and Other." *Journal of Personality and Social Psychology* 18 (1971): 173-188.

George, A.L. *Presidential Decisionmaking in Foreign Policy: The Effective Use of Information and Advice*. Boulder, Westview Press, 1980.

Glass, C.R. "Advances and Issues in Cognitive Assessment." Paper presented at the annual meeting of the American Psychological Association, Montreal, September 1980.

Harren, V.A.; Kass, R.A.; Tinsley, H.E.A.; and Moreland, J.R. "Influences of Sex Role Attitudes and Cognitive Styles on Career Decision Making." *Journal of Counseling Psychology* 25 (1978): 390-398.

Holland, J.E.; Daiger, D.C.; and Power, P.G. *My Vocational Situation*. Palo Alto, Consulting Psychologists Press, 1980.

Holland, J.E.; Gottfredson, D.C.; and Power, P.G. "Some Diagnostic Scales for Research in Decision Making and Personality: Identity, Information, and Barriers." *Journal of Personality and Social Psychology* 39 (1980): 1191-1200.

Hollon, S.D., and Kendall, P.C. "Assessment Techniques for Cognitive-Behavioral Processes." In *Assessment Strategies for Cognitive-Behavioral Interventions*, edited by P.C. Kendall and S.D. Hollon, pp. 319-362. New York: Academic Press, 1981.

Kagan, N., and Krathwohl, D.R. *Studies in Human Interaction: Interpersonal Process Recall Stimulated by Videotape*. East Lansing, MI: Michigan State University, 1967.

Kelley, H.H. *Attribution Theory in Social Psychology*. In Nebraska Symposium on Motivation, edited by D. Levin, Lincoln, NE: University of Nebraska Press, 1967.

Kendall, P.C., and Hollen, S.D., eds. *Assessment Strategies for Cognitive-Behavioral Interventions*. New York: Academic Press, 1981a.

Kendall, P.C., and Hollon, S.D. "Assessing Self-referent Speech: Methods in the Measurement of Self-Statements." In *Assessments Strategies of Cognitive-Behavioral Interventions*, edited by P.C. Kendall and S.D. Hollon, pp. 85-118. New York: Academic Press, 1981b.

Kendall, P.C.; Hooke, J.F.; Rymer, R.; and Finch, A.J. "Cognitive Style in Adults: Task Alternatives, Task Strategy, and Time Estimation." *Journal of Personality Assessment* 44 (1980): 175-181.

Klinger, E.; Barta, S.G.; and Maxeiner, M.E. "Current Concerns: Assessing Therapeutically Relevant Motivation." In *Assessment Strategies for Cognitive-Behavioral Interventions*, edited by P.D. Kendall and S.D. Hollon, pp. 161-196. New York: Academic Press, 1981.

Krumboltz, J.D. "A Social Learning Theory of Career Decision Making." In *Social Learning and Career Decision Making*, edited by A.M. Mitchell, G.B. Jones, and J.D. Krumboltz, pp. 19-49. Cranston, RI: Cornell Press, 1979.

Krumboltz, J.D. and Farguhar, W.W. "Reliability and Validity of the Achievement Test." *Journal of Consulting Psychology* 21 (1957): 226-228.

Krumboltz, J.D.; Hamel, D.A.; and Scherba, D.S. "Measuring the Quality of Career Decisions," In *Assessing Career Development*, edited by J.D. Krumboltz and D.A. Hamel. Mayfield Publishing, 1982.

Krumboltz, J.D.; Scherba, D.S.; Hamel, D.A.; Mitchell, L.; Rude, S.; and Kinnier, R. *The Effect of Alternative Career Decision-Making Strategies on the Quality of Resulting Decisions*. Final report, Grant No. G007605241, U.S. Office of Education, 1979. (ERIC Document Reproduction Service No. ED 195 824)

Lerner, N.J., and Simmons, C.H. "Observer's Reaction to the 'Innocent Victim': Compassion or Rejection." *Journal of Personality and Social Psychology* 4 (1966): 203-210.

Lewis, R.A., and Gilhousen, M.R. "Myths of Career Development: A Cognitive Approach to Vocational Counseling." *Personnel and Guidance Journal* (January 1981) 296-299.

Mahoney, M.J. "Reflections on the Cognitive-Learning Trend in Psychotherapy." *American Psychologist* 32 (1977): 5-13.

Meichenbaum, D. *Cognitive Behavior Modification*. New York: Plenum, 1977.

Mendonca, J. "Effectiveness of Problem Solving and Anxiety Management Training in Modifying Vocational Indecision." Doctoral Dissertation, University of Western Ontario, 1974.

Mitchell, L.K. "The Effects of Training in Cognitive Restructuring and Decision Making Skills on Career Decision Making Behavior, Cognition, and Affect." Ph.D. dissertation, Stanford University, 1980.

Newell, A., and Simon, H.A. *Human Problem Solving*. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Nisbett, R.E., and Wilson, T.D. "Telling More Than We Know: Verbal Reports on Mental Processes." *Psychological Review* 84 (1977): 231-259.

Osipow, S.H. *Manual for the Career Decision Scale*. Columbus, OH: Marathon Consulting and Press, 1980.

Osipow, S.H.; Carney, C.G.; Winer, J.; Yanico, B.; and Koschier, M.A. *The Career Decision Scale*. 3d ed. Columbus, OH: Marathon Consulting and Press, 1976.

Rotter, J.B. "Generalized Expectancies for Internal Versus External Control of Reinforcement." *Psychological Monographs* 80, 609 (1967): entire issue.

Saltoun, J. "Fear of Failure in Career Development." *Vocational Guidance Quarterly* (September 1980): 35-41.

Sutton-Simon, K. "Assessing Belief Systems: Concepts and Strategies." In *Assessment Strategies for Cognitive-Behavioral Interventions*, edited by P.C. Kendall and S.D. Hollon, pp. 59-84. New York: Academic Press, 1981.

Wilson, T.D.; Hull, J.G.; and Johnson, J. "Awareness and Self-Perception: Verbal Reports on Internal States." *Journal of Personality and Social Psychology* 40 (1981): 53-71.

Wyer, R.S., Jr., and Carlston, D.E. *Social Cognition, Inference and Attribution*. Hillsdale, NJ: Lawrence Erlbaum, 1979.